THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 430. OCTOBER 3, 1896. Vol. IX.

"A Superfluity."

To encourage a man to make a public exhibition of himself is a cruel proceeding—unpardonably cruel when the individual is posing as a representative of a collective body. The editor of *The United Service Magazine* did an unkind act to Surgeon-Major Foreman and to the Army Medical Service when he permitted an article by the Major on "The Future of the A.M.S." to appear in his August number.

What the members of the Army Medical Service think of the article we do not know, but the ordinary reader will no longer wonder why military authorities are slow to accept the suggestions of the "doctors" and why even their intelligent demands are so slowly and cautiously acceded to. We desire to do justice to Surgeon-Major Forman and therefore, taking into consideration his rank, we credit him with being an average representative of the A.M.S. so far as opportunity for observation and power of drawing logical conclusions are concerned. "One swallow does not make a summer" and one surgeon-major may not be a fair indication of a department. We must hope then that the position we in compliment assign to Surgeon-Major Forman is not unjust to the department of which he is so distinguished a champion.

A portion of the article will appeal directly to the veterinary profession—a profession which for many years has suffered under the delusion that it was of some use in connection with both the Civil and military divisions of the State. Just as Mr. Herbert Gardner imagined that retired soldiers and sailors were equally fitted with veterinarians to direct the control of disease amongst animals, so Surgeon-Major Forman dreams that army horses can be efficiently superintended by doctors. Unfortunately some mysterious political accident enabled the former gentlemen to test his theory, with the result that incapacity has been proved by failure and the tax-payer has been mulcted in costs to the tune of half a million sterling. Fortunately this country can never have such stupid experiments made at the War Office as are permitted at the Board of Agriculture, and therefore we need not anticipate the results of trusting the care of horses to army doctors. Some minor experiments in that line have indeed been made. No harm resulted to the horse for which a doctor prescribed two ounces of castor oil, and only amusement was caused by the surgeon who rejected as unfit for service a number of mules which he diagnosed as "in-foal." The Army Veterinary Department is not yet "a superfluity."

Here is the extract from the *United Service Magazine*:—

> The personnel of the Department, both in officers and men, should be increased, but inasmuch as in peace time sufficient work could not be found for the medical officers, Government should utilise the enormous amount of latent scientific talent they possess, and, by the establishment of bacteriological laboratories and the like, ensure their medical officers being usefully employed, and at the same time do much to advance the cause of science. In this connection I have often thought that a separate veterinary department for the State is a superfluity. There is no doubt in my mind that the duties of the A.V.D. could be carried out equally efficiently by the A.M. Staff. All that could be required would be that a certain number of medical officers should be trained for a few months in the technique of handling horses and the like. The phenomena of diseases are identical throughout the animal kingdom only in man they are somewhat more complicated. The Department should have its own transport, and as a necessary corollary it should have its own mounted branch. In short, it should be complete in every detail in itself, and in this respect independent of any and every other branch of the service.
>
> "The Future of the A.M.S." A rejoinder by R. H. Foreman, Surgeon-Major, A.M.S. *United Service Magazine*, August, 1896. W. Clowes, 13, Charing Cross, S.W.

This is really all too funny. The simple innocence with which our author proposes to remodel the Army Medical Service at the expense of other branches, and to fit his square men into any round hole that carries a salary, is above criticism. The first proposal is to have such an increased number that during "peace time work could not be found for the medical officers." To overcome this little difficulty the brilliant suggestion is made that Government should establish "bacteriological laboratories and the like" so as to "utilise the enormous amount of latent scientific talent." But as a few bacteriological laboratories might not afford scope for all the latent talent it is proposed to put the surplus—doubtless the sporting division—to look after the horses. This arrangement only holds good during peace, so that on a declaration of war the horses of the army would have neither veterinarian nor doctor to look after them. This sapient adviser seems to think that all a Veterinary Department has to do is to treat wounds. At any rate he says "all that would be required" to make doctors equally efficient as veterinary surgeons would be "that a certain number of medical officers should be trained for a few months in the technique of handling horses and the like."

It is positively wonderful what depths of profound ignorance may be reached by a man of latent scientific talent when he ventures to step out of the narrow circle for which kind parents and a conventional training have fitted him.

CASES AND ARTICLES.

AN OUTBREAK OF HORSE-POX.

By W. Hunting and R. C. Irving.

On August 22nd our attention was called to a black gelding described as having "a sore throat and strangles coming on."

The animal was standing round in his stall and fastened to the pillar reins. His general appearance was bright and lively, salivation was noticeable, and there was an eruption on the nose and lips. The eruption was in various stages of development—there were firm papules, small pitted ulcerations, sores covered by a scab, and around the angle of the lips on the near side a continuous raw surface, due to the horse having rubbed the part against the manger whilst covered with a crop of vesicles and small ulcers.

On opening the mouth the mucous membrane of the lips was seen excoriated as though a large eruption of vesicles had been broken, the tongue was excoriated for some distance from its point, and a few hard papules could be seen and felt in the membrane lining the lower lips. The sublingual glands were slightly tumefied.

On offering the horse a pailful of water he readily attempted to drink but most of the water was returned through the nose, bringing with it a lot of viscid mucus.

History.—The horse was a recent purchase, having been brought from Ireland about a month previously. The eruption had been noticed a few days before our attention was called, but as it did no apparent harm was treated as of little importance until sore throat came as a complication and interfered with the horse's feeding. On inquiring if there had been any similar cases in the yard we were shown three horses, all of which presented various stages of the disease. A roan gelding, which came from Norfolk about a month previous to the black horse being affected, presented only small round spots, white in the centre, as the remains of a rather copious eruption. He had never been off his feed or had any swollen glands or sore throat. The other two affected horses were more recent cases, showing a plentiful crop of small ulcers round the edges of the lips and blisters on the tongue and lining membrane of the lips.

Additional interest was given to this outbreak by the fact that the horsekeeper had managed accidentally to inoculate himself on a finger, on the back of his right arm, and on one shin. The three inoculated spots showed what is best described as typical vaccination sores, which went through the various stages without causing any disturbance to the general health of the man, although he complained of their local smarting pain.

To return to the black horse. We had his sores dusted with boracic acid in powder, and gave him an electuary of treacle containing the same acid. During the next day or two his sore throat rapidly subsided, but both submaxillary glands became enlarged. The eruption around the mouth extended on to the sides of the face, and some few scattered papules appeared on the neck. These did not soften and form little circular sores as did the eruption on the lips. From some of them the hair fell, leaving a bare spot. No constitutional disturbance was seen in any case, and the eruption was only troublesome locally for a week or less.

The black horse had two white hind heels which enabled the skin to be more clearly seen than if covered with black hair. On each heel were papules, not clustered together but separate and discrete. There were eight or nine on one heel and five or six on the other.

The same harness had been used on each of these horses, and three of them stood in one stable. Probably the bits were the medium through which disease was transmitted. There were thirty more horses in the yard standing in different stables but all liable to use the same pails, and some the same harness, but no more cases have so far shown themselves.

It would seem almost as though a wound in the skin were necessary for the propagation of the disease. Abrasions about the lips of young horses are not uncommon, and so in these animals inoculation was simple. It is remarkable that no case occurred in which an eruption was seen except on lips and heels. In some reported cases the eruption was confined to the perineum of mares and was from this spot carried by the stallion to other mares after he had infected himself. A very good account of two outbreaks of horse-pox is to be found in Prof. Crookshanks "History and Pathology of Vaccination" Vol. I. One, translated from a report by Prof. Peuch in the *Revue Vétérinaire de Toulouse*, is illustrated by a number of coloured plates copied from original drawings.

It is an interesting question, how horse-pox originates? Is it a disease *sui generis*, or is it one with cow-pox. Three years ago we saw two ponies badly affected—one lost nearly all the hair from his hind legs during convalescence. He had a cracked heel which somehow became inoculated from the other pony. The first animal affected had just come to London from a large dairy farm.

We know that horse-pox may be transmitted by inoculation to cows, men, and other horses. Is it the same disease as cow-pox? Perhaps some gentleman practising in a dairy county may be able to supply further experience of variolous disease in cows and horses.

Since writing the above two more horses have become affected and one is now (Sept. 29th) a well-marked case.—W.H.

Contagious Diseases for Week Ending Sept. 5th. Animals Attacked.

			1896	1895
Anthrax	...	...	19	9
Glanders	...	...	41	21
Rabies	...	...	1	7
Swine-fever	...	...	1310	1381

This shows an increase of glanders and anthrax, a decrease in rabies, no progress with swine-fever.

TUBERCULOSIS.

By J. M. Ironside, M.R.C.V.S., Nairn.

I have read with much pleasure in last issue of *The Record* some remarks by Mr. Macgillivray on the subjects of tuberculosis in cattle, and as his conclusions are so identical with my own I beg respectfully to give a few notes of my experience.

I have been in daily practice among cattle in various parts of Scotland and Wales during the last 23 years and have had many discussions with intelligent and extensive breeders of polled and shorthorn cattle, and from the results of their careful observation all conclude that the disease is both contagious and hereditary.

In support of the hereditary idea I will mention two outbreaks with which I had to deal, and I could give many more similar instances.

In a large herd of cattle in which there had never been the least sign of tuberculosis, a young bull was bought in the spring and served over 20 cows, all of which calved in due course. About six of these calves died during the first few weeks, two of them from tubercular meningitis, and other two showed distinct general tuberculosis.

During the autumn the bull showed enlargement of the testicle, I recommended castration, which was performed at once and one testicle was found of great size and distinctly tuberculous. The animal ultimately died from tuberculosis, and the disease was a scourge in the herd for years after.

Into another herd in which tuberculosis was unknown a bull was introduced who had tubercular enlargement of the glands about the throat. He was used one season, gradually became a piner and died. Post-mortem examination revealed as bad a case of general tuberculosis as I have ever seen. Every calf got by this bull was a bad thriver, and I had the opportunity of a post-mortem examination on two of them when only two or three weeks old and both showed tuberculosis in an advanced stage, so much so that there was no room for any doubt but that they were born with it.

I may state that, as every practical man knows, numbers of young calves die from various causes. I always make a post-mortem of such when possible and I find that tuberculosis is not uncommon in them.

I notice that at the last meeting of the National Veterinary Association Prof. McFadyean is reported to have said that the old fashioned idea of hereditary tuberculosis is quite exploded and that it only occurs in that way once in 10,000 cases or less. According to his conclusions, apparently, we may breed healthy calves from any sort of cows and bulls. Although the cow is tuberculous, no matter, the milk is harmless. He does not say if the calves may have the companionship of their fathers and mothers, but they are to be kept apart from their brothers and sisters, and tuberculosis will become a thing of the past. Well that is certainly refreshing intelligence for breeders of calves, but unfortunately practical experience points the opposite way, and I fail to see any good purpose that can be served by trying to prove that tuberculosis is not a hereditary disease, and I think a more sensible suggestion to at least reduce the number of cases would be to have all young animals intended for breeding purposes subjected to the tuberculin test, those that showed any reaction to be isolated, and the sound ones only used for breeding. I have used tuberculin frequently and have every confidence in it, and I believe that by its judicious use any herd can be cleared of the disease. The great obstacle is the question of expense, which in many cases would be ruinous, but perhaps the Board of Agriculture will devise a scheme whereby the needful funds will be raised and the country cleared of the greatest scourge which affects our cattle.

By J. Sutcliffe Hurndall, M.R.C.V.S.

The article under the above heading from the pen of Mr. Macgillivray of Banff, which appears in *The Veterinary Record* of September 26th inst. is a welcome contribution if only to serve as a corrective to some of the views being promulgated at the present time by men who occupy high positions in the scientific world. There is such a tendency among professional men to accept as simple gospel the peculiar tenets held upon given subjects by the savants of the bacteriological laboratory with blind unquestioning faith that it is really quite refreshing to find that there is one man living who has the courage to give public expression to any doubts he may entertain, after carefully reasoning the matter out in his own mind, concerning a subject of such vital importance as that under consideration. Like Mr. Macgillivray, I do not accept the dictum of the latter-day-savants that tubercle among bovines is transmitted congenitally *very rarely;* I do not deny for a moment that it is not frequently spread by infection, but from an experience which extends over thirty years I am perfectly satisfied that whatever conclusions are arrived at by bacteriologists, as the result of experiments in the laboratory, tubercle is transmitted from parent to offspring, and the illustrations furnished by Mr. Macgillivray in proof of this belief coincide with observations I have made. If tubercle be not congenitally transmitted how is it that so large proportion of the stock in this country is affected, especially among some of the most fashionable herds of shorthorns, whose progeny has been exported to other countries for years past, and among whom the disease is in this day very rife? It does not do to mention names of particular breeds, but those who have a practical knowledge of the breeding of bovine stock cannot but acknowledge that years ago it was recognised that among certain fashionable breeds a very large proportion were affected with a disease which is now known to be tuberculosis; and it was not until a cross from an infected herd was introduced that the disease was observed, so far as those districts were concerned in which it was previously therein unknown. In the face of such facts I contend that it behoves every one to be careful how they arrive at conclusions which are at variance with testimony of this kind, particularly as to ignore any possible source of contamination may mean the loss of many valuable human lives. I may be wrong, and I may possibly

expose myself to the ridicule of those superior persons who ignore everything that cannot be proved in the bacteriological laboratory, but I am one of those who believe that bovines are chiefly responsible for the dissemination and gradual spread of tuberculosis in the human family, and hence that it is all-important in the interests of the communities of the world at large that something like intelligent measures should be adopted to prevent the spread of tubercle, and among these I unhesitatingly suggest that only those animals that are free from taint of the disease should be used for breeding purposes. There seems to be little difficulty about deciding this point, as tuberculin would seem to have proved itself a very reliable diagnostic agent. Next to this in importance is the treatment of those animals which there is good reason to suspect are the subjects of tubercle, but which, so far as condition goes, give no evidence of it; in other words cure them; while those upon whom the disease has made unmistakeable inroads should be slaughtered, a result almost certain of realization in the ordinary course of events. If the inspection of dairies was properly conducted by those who only are qualified for the work, viz., members of our own profession, there would be no risk of infecting children with tubercle through the medium of the milk. Just now our friend Mr. Hunting would appear to be greatly exercised in mind because tuberculosis is not included in the schedule of the Contagious Diseases (Animals) Act. His one idea is "stamping out," and he is evidently determined to move heaven and earth to attain that object. I am not going to discuss the matter with him because I am convinced it is useless to attempt to change his ideas, just as easy would it be to change the leopard's spots. Personally I am not an advocate of the stamping-out process for any infectious or contagious diseases, an assertion which will probably surprise many, Mr. Macgillivray among the number. I consider that to pin one's faith to "stamping-out" to get rid of a disease is altogether unreliable and a lamentable admission of ignorance, to say nothing of its being an extremely costly proceeding, but of course when you are spending other people's money that does not matter. As bearing upon the subject under consideration it may be asked whether I consider tuberculosis capable of cure; and my reply is, that like all other diseases, if it has not obtained too firm a hold upon the animal constitution it is capable of cure. Possibly Mr. Macgillivray may not agree with me in this, indeed I should be surprised if he did; but he may admit, that what is possible in the human subject may with some reason be anticipated as capable of realization in the lower animals; and as by repute I know him to be a man who thinks for himself, I commend to his notice a brochure entitled "Eight Years' Experience in the Cure of Consumption by Bacillimune," written by J. Compton Burnett, M.D., the cost of which is only 3/6, and can be obtained from the Homeopathic Publishing Co., 12 Warwick Lane, London. The experience which Dr. Burnett has had of the cure of consumption by its own virus was obtained before the time that Koch introduced his discovery to the world. Mr. Macgillivray seems to be dubious about the curative properties of tuberculin, that however is a matter I believe about which some of the learned gentlemen already referred to have their doubts; they do not say "Yes" or "No" to the questions. For myself I have no doubt about it, but much depends upon how the agent is prepared. To be effective as a curative agent, it requires to be submitted to a high dynamising process; how this process renders it effective for cure I know not, and further I rather fancy it is one of the things that are not to be revealed. That it does cure under such conditions I am satisfied, and whatever may be the effect ultimately upon Mr. Macgillivray's mind as to the result of a careful perusal of Dr. Burnett's little work, I feel certain that he will pause before absolutely affirming that he does not believe in the possible cure of tuberculosis.

The subject which Mr. Macgillivray has entered upon in his very able article is a wide one and admits of illimitable discussion. I believe the difficulty of overcoming tuberculosis may be grappled with successfully, not on Mr. Hunting's plan of stamping out, however, but on lines that would involve far less cost to the country and to individual breeders, lines that would make things mortally uncomfortable for the practitioners of so-called orthodox medicine and the slaves of the bacteriological laboratory. If what really can be done for the suppression and cure of this cruel malady, could only be imprinted in indelible letters upon the hearts of the many who have hitherto pinned their unquestioning faith upon the words of these physiological acrobats, how many valuable lives may have been saved, how many bleeding hearts might be staunched. The price of truth is very dear, and much will have to be paid before the benefits of scientific medicine will be available for the many. Those of us, however, who have the privilege of the true light can but endeavour to forecast the shadow to the front, and thus seek to do our little best for the advantage of mankind at large.

BAYER'S METHOD OF EXTIRPATING THE LATERAL CARTILAGE OF THE FOOT.

By Dr. Fröhner, Professor of Surgery in Berlin.

Translated from the *Monatshefte für praktische Thierheilkunde.*

By James Eadie, M.R.C.V.S.

In 1882 I published an article in *The Deutschen Zeitschrift für Thiermedicin*, on extirpation of the lateral cartilage followed by iodoform dressings, the result of my experience in the Munich surgical clinic. In the previous year Professor Bayer, of Vienna, described, in the same journal, a new method of extirpating the cartilage. In the spring of 1895 I saw this method carried out several times, with good results, in the Vienna clinic, and, on that account, introduced it into the Berlin clinic. The number of horses operated on by me, up to the present, by Bayer's method, is twelve. My results have, in complete agreement with Bayer's, been so favourable that I must designate Bayer's method of extirpation of the lateral cartilage as by far the best.

First a little as to carrying out this method. It

consists in tearing off a half-moon shaped piece of horn over the cartilage, dissecting up and hooking back a flap consisting of sensitive wall, coronet, and skin of the pastern without transverse injury to the coronary cushion, extirpation of the cartilage thus laid bare and suturing the flap of sensitive wall, coronary cushion, and skin. Bayer thus describes his method:—

"The day before the operation the hoof is thoroughly cleansed in a disinfectant bath, and scrubbed with a brush then enveloped in a cloth previously soaked in an antiseptic solution. The cast horse is narcotised or locally anæstheticised immediately before the operation (in the latter case the cocaine solution must be injected at several places and the dissection carried out somewhat quicker). The coronet and pastern are shaved, skin and hoof again disinfected, elastic tourniquet applied, and then the horn of the wall removed to desired extent in form of a half moon (Fig. 1). Instead of now making a cross

FIG. 1.—*Wall removed.*

incision I incise the sensitive wall about one-fifth of an inch from the horny wall and parallel with it, continuing the incision through the coronary cushion as far as the upper edge of the lateral cartilage.

The flap of sensitive wall and coronet thus incised in form of a half ellipse is carefully dissected up close on the cartilage so that the latter is laid bare (Fig. 2). The cartilage is fixed with a sharp hook, and entirely or partially separated from the underlying tissues. (Fig. 3). This is the most particular and ticklish part of the whole operation. No hard and fast rule can be set as to where to begin, and how much of the cartilage to remove; this must be left to the operator's judgment.

Should the lumen of a large vessel be noticed during the dissection it is to be ligatured with fine catgut. The mouth of the sinus, as well as the wall of the same, is to be carefully scraped with the sharp spoon. The surfaces of the wound are now douched and sprinkled over or rubbed with iodoform, the flap of sensitive wall and coronet re-applied to its normal position, and sutured both at coronet and sensitive wall (Fig. 4).

FIG. 2.—*Flap raised from cartilage.*

FIG. 3.—*Cartilage removed.*

FIG. 4.—*Flap replaced and sutured.*

True to my principle of retaining at each operation all that it is possible to retain, I remove nothing of the sensitive wall. On the same principle I have tried removal of only the diseased part of the cartilage, leaving the apparently sound portion untouched but have, as previously mentioned, bad results to record. The more intensely diseased part of the cartilage is, to be sure, distinguished in the extremity artificially deprived of blood, by a darker red colour due to its greater vascularity, still the disease has often really penetrated much further, and when one removes only the apparently diseased part, relapse occurs. In one such case the wound healed *per primam* save a small spot at the lower edge of the sutured flap. From this pus was discharged, so that I later but merely at this point, incised anew, and had to remove a green coloured piece of necrosed cartilage, whereupon complete healing ensued.

After once more disinfecting the whole wound the bandage is applied, and I must here draw particular attention to the most judicious method of application. First the whole surface is covered with iodoform gauze, then by careful application of tow tampons close to the edge of the half moon incision in the hoof the sensitive wall is prevented from bulging out, and at the same time the under surface of the flap of sensitive wall and coronet is kept firmly pressed on the opposing surface of the wound, so that nowhere between them may an empty space exist. The whole is then bound up in a calico bandage previously dipped in sublimate solution. In applying the bandage one must take special care that the flap is not displaced upwards; on that account the bandage must always be applied from above downwards. The tourniquet is now removed. In the majority of cases this is hardly done before the bandage is soaked with blood, even when one has been careful to ligature the large veins. This after bleeding is of little importance, the blood collected between the two surfaces of the wound remains aseptic, and may perhaps be of service to the reparatory tissue (Schede). To protect the bandage the whole is to be enveloped in a piece of thick cloth.

There is no fixed time for the removal of the first bandage, If the horse begins to rest on the foot, makes no pawing movements, in short indicates no special pain in the foot, then I leave the bandage alone even for 14 days for one reason, among others, that the unruliness of many horses makes it difficult to apply the next bandage so exactly as was possible on the cast animal. In my first cases I removed the bandages after a few days, but without it being indicated as necessary, merely from curiosity and in order to study the course of the healing. Another time I left the blood-soaked first bandage untouched until complete healing *per priman* had taken place—so long that a very unpleasant smell was apparent. On removing the bandage it was found that the decomposition only affected the superficial layers of the bandage, and did not penetrate to the operated surface."

I can corroborate Bayer's statements on all points, especially with regard to the healing by first intention of the dissected up flap of sensitive wall. The following points are, according to my experience, of importance for the success of the primary non-purulent union, by attention to which healing by first intention may almost be guaranteed.

1. The hoof and neighbourhood (coronet, pastern) must be thoroughly cleansed and disinfected before the operation. The hair in the region of the operation is to be clipped, hoof and neighbourhood then thoroughly soaped and scrubbed with a brush for a quarter of an hour, then a douche of creolin or sublimate solution played on for a few moments.

2. The elastic tourniquet is to be applied so that the field of operation be as free from blood as possible. The best places to apply it are on the fore arm or above the hock.

3. Deep chloroform narcosis is desirable for the careful carrying out of the operation. In the 12 cases I operated on the average amount of chloroform used was 80 grams, and the average duration of narcosis 30 minutes; the latter time also corresponds to the duration of the operation.

4. Removal of the wall overlying the cartilage is an absolute necessity. Only so can the field of operation be completely exposed and clearly surveyed. To operate in the dark under the horny wall or coronet is a thoroughly unsure and therefore not commendable procedure.

5. In tearing off the wall bruising of the sensitive structures is to be avoided. For this reason the groove in the horny wall is to be made as uniformly deep as possible—to the horny laminæ. The resting point for the tongs must not be upon the sensitive structures, but upon the horn below the line of operation.

6. The line of incision through sensitive wall, coronary cushion, and skin must be vertical to the surface, and from one-fifth to two-fifths of an inch from the horn, otherwise suturing of the flap cannot be carried out so that the edges of the wound exactly correspond.

7. Dissection of the sensitive wall must be close on the pedal bone. The lower edge of the flap must be as thick as possible in order that the sutures do not tear it.

8. Partial resection of the diseased part of the cartilage is, according to my hitherto experience, sufficient. It is mostly only circumscribed parts of the cartilage which are necrosed (green colour). To make sure I also remove the neighbouring apparently sound tissue, and scrape the neighbourhood with the sharp spoon. The boundary between diseased and sound cartilage is as easily recognised, by reason of the absence of blood in the field of operation, as in the dead specimen. If large parts of the cartilage be diseased, then of course the whole cartilage must be extirpated, at times also a part of the pedal bone.

9. Ligature of vessels is superfluous. Since by Bayer's method the coronet is incised vertically, not horizontally, there is no important—dangerous bleeding.

10. After extirpating the cartilage the mouth of the sinus in the skin is to be thoroughly scraped with the sharp spoon, and the whole field of operation douched with iodoform æther. I prefer a solution of iodoform in æther (1-5) to the powder, for the reason that the iodoform in this solution may penetrate

everywhere and a more thorough disinfection be thereby secured.

11. The flap of sensitive laminæ and coronet is now carefully sutured, The stitches begin at the lowest part of the flap, and it is recommended that a needle holder be used. Silk serves as suture material.

12. The sutured flap, especially at the stitches, is moistened with iodoform æther and covered with iodoform gauze. The iodoform gauze must project over the field of operation in all directions at least three finger breadths.

13. Cylindrical tampons of carbolised tow are laid on the iodoform gauze in the breach in the wall of the hoof. These tampons serve to replace the removed horn, and to continually press the sutured flap against the underlying tissue so that the two may adhere. Besides they are said to prevent growing out of the sensitive wall. Great care is necessary in applying the tampons. They are also necessary in later dressings until the sensitive wall is covered with horn. A second layer of tampons is laid horizontally across the first, for the purpose of fixing the latter, and then a layer of antiseptic tow is applied.

14. To keep the whole in place a white calico bandage is used, applied from the coronet downwards. This latter direction has as object the accurate pressure of the flap against the underlying tissue. The whole foot is then enveloped in a boot or thick piece of cloth.

15. The first bandage remains in place for 14 days the next for 8 days. As a rule one finds after 14 days that the seat of operation is dry, without signs of suppuration, and that the sutured flap has adhered *per primam* to the underlying tissue.

On the average, healing necessitates four to six weeks. At the end of this time the horse may be shod and gradually introduced to work again. The operation for extirpation of the lateral cartilage is indicated when examination reveals the presence of necrosis or of sinuses in the cartilage. He who has seen the picture which the diseased cartilage presents to view when laid bare in the above described manner, will not dispute the statement that such a condition can only be healed by surgical treatment and never by the employment of medicaments. I must also concur with Bayer when he states at the end of his article :—

"The favourable results which I have got by this operation have caused me to wholly abandon the medicinal treatment and to prefer in all cases the surgical operation as being the best means to the end."

VETERINARY SOCIETIES.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Manchester, on Thursday, September 3rd, 1896. Tea 5 p.m. Business 6 p.m. There were present the President (J. H. Carter, Esq.) in the chair, Messrs. J. B. Wolstenholme, E. Faulkner, W. A. Taylor, G. G. Mayor, T. Hopkin, Wm. Woods, W. Dacre, R. C. Edwards, Geo. Howe, S. Jackson, McKinna, Jas. Marshall, A. Michaelis, J. C. L. Jones, R. Ward, P. Gillespie, H. Percival, and H. Chorlton (Hon. Sec.)

Upon Mr. Dacre's proposition, seconded by Mr. Faulkner, it was unanimously carried that last meeting's minutes be taken as read.

Mr. HARRY PERCIVAL, M.R.C.V.S., Macclesfield, was unanimously elected a member of the Association upon Mr. Chorlton's proposition seconded by Mr. Howe.

Respecting the report from Election Committee, the President said the members would be aware that Mr. Lawson had been elected as the Association's representative on Council. Certain matters requiring investigation prevented his giving any report then but this would be brought up at a subsequent meeting.

SPECIMENS.

Mr. S. JACKSON showed specimens of a renal calculus and gall concretions from horse.

Mr. CHORLTON exhibited the liver of a twelve year old fox terrier which presented a peculiarly hobnailed appearance, the prominences being of a yellowish colour. The animal was brought to him in a state of collapse. It lived two days and he then poisoned it. There was nothing noteworthy in the case except a slight enlargement of the abdomen, and before it was destroyed a fair amount of blood came down the mouth ; and profuse diarrhœa of a dark brown character. He desired to know the condition of the liver.

Mr. WOLSTENHOLME replied that it would probably be difficult for anyone to determine the condition of the liver except by a microscopical examination.

RONTGEN RAYS.

The question of the applicability and benefits which may accrue to veterinary surgery by the use of the Röntgen rays was considered. The subject was introduced by Mr. V. E. Johnson, M.A., of Alderley Edge, who had recently been making investigations at the Royal Veterinary College, London, in conjunction with Professor Hobday. At the outset Mr. Johnson very kindly explained and demonstrated the methods adopted by him in the process. Then followed an exhibition of a large number of the skiagraphs he had obtained from a variety of subjects. Several taken from the knee of the horse were shown, one of which plainly demonstrated the bones composing that joint. Afterwards others of the hock two of which clearly indicated the divisions which exist between the small bones composing that joint. Then came a series which included the fetlock and foot of the horse, one of which demonstrated the presence of sidebones and a small ringbone very distinctly. Among the plates obtained from the dog was one demonstrating a fracture of the femur, also of a skull side view and a skull back view. A comminuted fracture of the paw of a cat, also the skull, front legs, portion of the ribs and spine of a cat. Several plates showing the head and face of a rabbit in which certain dental irregularities were observable. There was also an exceptionally fine plate showing all the bones of a rat. A fracture in the bones of the foot of a chicken was also well demonstrated. The shoe together with the nails which fastened it to the foot of a horse came out in distinct relief so that gradations in colour demonstrating the shoe nails, hoof and bones of the foot were well marked. Another plate clearly indicated the position of a nail which had been driven into the foot after death in such a manner as to have caused injury to the sensitive structures. In the discussion which followed, the possibility of applying the rays to aid in the diagnosis of a variety of conditions were considered, amongst which were, with respect to the horse, split or fractured pastern, and fracture of the bone within the hoof (coffin bone). The presence or otherwise of sidebone, ringbone, and spavin. The extent of injuries to horse's feet by punctures from nails in shoeing and from nails and other hard substances

"gathered" whilst travelling on the roads. Fractures of the ribs, the vertebræ, and the presence or otherwise together with the location of intestinal calculi.

The PRESIDENT expressed his indebtedness to Mr. Johnson for helping the Association.

Mr. DACRE proposed a hearty vote of thanks to Mr. Johnson for his most interesting and instructive subject. Without doubt he would have the satisfaction of knowing that what he had communicated to the members would be treasured by them and that he would always be a very welcome guest at the Society's meetings.

Mr. FAULKNER seconded Mr. Dacre's proposition.

Mr. JOHNSON briefly acknowledged.

CLINICAL NOTES.

By Mr. J. H. CARTER (President).

I must apologise for my hurried compilation of what I trust may prove interesting though by no means unique cases, which have come under my observation since our last meeting. I do not claim any originality, nor that I am introducing subjects unknown to you. I much regret my inability to secure an abler exponent to-day who could do more justice to a paper than I could ever hope to. I can assure you, my feelings were not consulted when I consented, at the eleventh hour, to read a paper here to-day, the consent being given to allay the perturbation of our indefatigable secretary. Under these circumstances I must crave your indulgence.

PARAPHYMOSIS IN THE HORSE, AMPUTATION AND RECOVERY.

The case was brought to my yard on June 15th, a brown harness horse in poor condition, penis hanging pendulously, the animal being unable to draw it into the sheath. On examination it was noticed to be greatly tumefied about six inches from its extremity, this tumefaction undoubtedly acting as a deterrent to its return. Treatment: Scarified the parts freely, after which I returned it into its sheath, inserting two twine sutures, and gave some nervine tonic powders to overcome any debility which might exist.

June 17th horse returned, sutures having given way, and the penis out as before. I had the parts irrigated with astringent lotion (alum and water) for about half an hour, after which I pushed the penis home and this time inserted two tape sutures, taking a firmer hold, and ordered cold water douche to be applied frequently throughout the day.

June 19 horse returned as bad as ever. The penis had by some means mounted the upper suture and was out as bad as before. The organ was much swollen through pressure exercised by suture over the urethra causing suppression of urine, and consequently the horse was in great pain. I immediately cut through the tape, removing the pressure to the manifest relief of the animal followed by a profuse flow of urine. I advised the owner to leave the animal at my place, to which suggestion he readily assented. Had horse placed in box, rescarified all round the tumefaction, after which cold astringent douche; returned the penis as far as possible, and retained it by a large sponge and a broad cotton bandage carried round the loins and tied as tightly as was consistent. Following morning the animal was found to have been down, bandage displaced, and things as bad as ever. I repeated this treatment and placed the animal into slings which had the desired effect of keeping the bandage in its place, but when this was removed it was not many minutes before the penis made its appearance, and later out as bad as ever.

I persevered with this treatment until June 29th with no good results, when I decided to amputate, so had the horse cast and penis amputated in the usual way as directed in our text books, under the influence of cocaine injection 20° solution. I was much astonished at the slight hæmorrhage resulting immediately after the operation. All went on well until 10 p.m. when my assistant casually looked into the box when he imagined he heard a noise like the running of a tap. His suspicions being aroused he immediately examined the horse and found it bleeding so profusely as to cause some alarm. He at once repaired to the surgery, saturated some tow with liqr. ferri perchlor, and packed the inside of the sheath with this which abated the hæmorrhage somewhat but in a short time it returned as forcibly as before. I then administered tinct. hamamelis vergin ℥i in water, but this not having the desired effect I gave tinct. ergot ℥ii in water, and within ten minutes the hæmorrhage ceased and did not again return. The subsequent treatment consisted of syringing out the sheath daily with antiseptics and smearing the parts with carbolised oil. Horse was ready to discharge a week after the operation. He remained, however, till July 24th.

I heard nothing further until August 27th (last week) when he returned for inspection as he did not micturate freely. Upon examination I noticed a constant dribbling of urine, and upon manipulation it was palpable the opening of the prepuce was so contracted as to admit only of a probe. I had the animal cast, and inserted a director, along which I ran a probe pointed bistoury and slit the parts open. The horse left my premises to all appearances relieved.

RECURRENT GASTRITIS IN A HORSE.

This most interesting case occurred to a chesnut horse, the property of the Lancashire and Yorkshire Railway Company. The first attack this animal had was about the middle of June, when he was noticed to be uneasy in the shafts, as if commencing with colic. The man in charge returned to the stables as quickly as possible, when he was at once put into what is known as the sick box. I was then telephoned for. After examining the animal I was most struck with the great amount of salivation; it was simply hanging in ropes from his mouth. The visible mucous membranes were injected, pulse and temperature almost normal, general uneasiness, walking round the box, occasionally scraping, pupils dilated. Administered a little ol. lini and chlorodyne. In a short time the horse recovered, and was alright next day.

All went well for about three weeks when he had a similar attack, and being away from home, my assistant had it in hand. This attack I did not see, and did not know anything about until a fortnight later.

June 23rd, 9.30 a.m. I was again summoned to attend, and upon entering the box and seeing I had the same symptoms presented, only of a much more aggravated character, I at once inquired of the horse-keeper if this was not the same animal I had under hand five weeks previously, when he informed me it was, and that my assistant had it under hand a fortnight before, when I was away. I had exactly the same symptoms as before, only more severe, the horse having a sad expression of the eye, as if suffering acutely, pulse and temp. normal, walking round box, laid down and screamed like a child. I then noticed him try to vomit, and again he screamed, and saliva flowed from his mouth. I now had my suspicions aroused as to poisoning. I had the driver sent for, and questioned him closely, but all to no purpose. He protested he had given the horse nothing, but wanted to lay the blame on the beans. I administered ol. lini. Oj. combined with chlorodyne ℥i. and soda bicarb ℥js. and hypodermic injection morphia ℥lx.

12.30 p.m. horse easier, administered ball containing ammon. carb. and belladonna.

5 p.m. much about the same.

9.30 p.m., easy and apparently free from pain, saliva still in abundance, bowels torpid, gave enema of glycerine and warm water, and left for the night in charge of the

men, with instructions to call me up if the animal should become restless.

It was not until 9 o'clock the following morning when a message arrived "Come at once, horse worse." Upon arrival I found the animal walking round box, no salivation, cold sweats bedewed the body, haggard expression of eye, pupils dilated, pulse 84°, temp 101°. Administered oil and sedatives as before, and morphia hypodermically. I paid five visits during the day. The last visit (8 p.m.) it was very palpable the end was fast approaching, death taking place about 9 p.m., one hour later.

The following morning (9 a.m.) I made a post-mortem examination, which revealed extensive rupture of the stomach. The mucous membrane was highly inflamed and ulcerated throughout; some ulcers had eaten nearly through the coats of the stomach, and there were one or two large ulcers in the act of cicatrisation—these latter probably produced by the former attacks. Kidneys were also very badly diseased. I was not at all satisfied about this case, for judging by the symptoms, the profuse salivation, and all other things combined, I was afraid there had been some foul play, and, consequently, had the stomach and some of the injesta sent to the laboratory of the Royal Veterinary College to be examined and analysed, but with negative results. I satisfied myself, however, on a point which would otherwise have always had a taint of suspicion.

Rupture of the Bladder in a Dog.

One evening about a fortnight ago I was requested to go and see a dog. Upon arrival and making inquiries the owner informed me the dog had not been well for a day or two, and that he had not seen it micturate. After this history I proceeded to the yard when the dog was in his kennel. I had him brought out, when it was noticed that he had an enormous dropsical-looking abdomen, which on palpation was easy to diagnose as one of ascites. There was no yellowness of the visible mucous membranes such as you often see in such cases. The dog seemed to be in a very weak state, and could not manage to enter his kennel without assistance. I told the owner it was a hopeless case, and that he would probably die during the night, and if so I would gladly make a post-mortem examination the following morning, with the result that we found about a gallon of fluid in the abdominal cavity, and the bladder revealed a large rent, as you see in the specimen produced. The owner now asked me if I thought a kick would cause such a thing to occur, and I answered in the affirmative, particularly if directed to the flank, and the bladder at the time distended. It was then that he owned to having kicked the poor brute about two days before my seeing it.

Mr. Faulkner brought forward a case of gall stones and cirrhosis of the liver in the horse.

Mr. Woods proposed a vote of thanks to the President, Messrs. Jackson, and Chorlton, for their very interesting cases.

Mr. Wolstenholme seconded, and Mr. Taylor supported.

Service on Juries.

In connection with the letter from the Southern Counties Veterinary Medical Association, Mr. Hopkin remarked that it was a subject to be dealt with by the Council of the Royal College, when a fitting opportunity occurred.

Mr. E. Faulkner said the matter had been twice before the Council, who considered that those occasions were inopportune for them to move with respect to exempting veterinary surgeons from serving on juries, but in the meantime it was desirable for Associations and members to influence Members of Parliament in order that when opportunity arose they might be posted up, and the opportunity seized by the Council for pushing the matter.

Mr. Taylor proposed that the Association request the Council R.C.V.S. to take steps when a favourable opportunity occurs to obtain by Act of Parliament, or otherwise, the exemption of veterinary surgeons from serving upon juries, also for the revision of fees now paid to veterinary surgeons when giving evidence in criminal cases, so that they may be placed on a similar footing to solicitors and medical men. He also moved that the Secretary acknowledge receipt of the letter, and thank the secretary of the Southern Counties V.M.A. for having drawn the Association's attention to the matter.

Mr. Hopkin seconded the proposition, which was carried unanimously.

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

A meeting was held in the Religious Institute Rooms, Buchanan Street, Glasgow, on September 11th, Dr. Jas. McI. McCall, President, in the chair. The following members and visitors were present, viz., Professor Dewar, Dick Veterinary College, and Mr. P. Moir, Edinburgh, Messrs. W. Anderson, J. Wilson, G. Frew, W. Peddie, Jas. Weir, R. Mitchell, Allan Blue, J. B Macqueen, J. Bishop, Robt. Mitchell, of Glasgow, Messrs. D. Allan Busby; J. Brown, Glasgow Veterinary College; Mr. McIlwraith, Milngavie; J. Taylor, Cathkin; Wm. Brownlie, Coatbridge; N. B. Wyse, T. A. Douglas, Kilmarnock; Mr. J. McCall, student, and H. Begg, East Kilbride (Hon. Sec.)

Letters and telegrams regretting inability to attend were announced from Mr. McIntosh, Dumfries; Mr. Farquhar, Riccarton; Mr. Malcolm, Birmingham; Mr. Green, Irvine and Mr. McL. Young, of Dundee.

The minutes having been read and approved,

Mr. W. Anderson, Glasgow, moved that a committee be appointed to transact the business of the Association.

The motion was seconded by the Secretary and unanimously agreed to.

PRESIDENTIAL ADDRESS

By Dr. Jas. McI. McCall.

Members of the West of Scotland Veterinary Medical Association and Gentlemen,—It is an old saying, and possibly a true one, that "a new broom sweeps clean," but it is also an undoubted fact that, if there is very little to sweep, the "old" one must have answered the purpose very well.

I do not wish to escape from the tasks which pertain unto the new broom as represented by me your recently-elected president; but I feel it my duty, before entering upon the sweeping process, to recognise the amount of indebtedness which I owe to Mr. Campbell, my predecessor, for the very able and masterly manner in which he kept this Association together, and for the great interest which he always has taken in it—in fact, so well has he done the sweeping himself that he has enabled me to drop into his place without requiring to soil even the tips of my fingers. Gentlemen, I would have liked to have given you a short account of the doings of this Association since its earliest days, but unfortunately the old minute book has been missing for more than sixteen years, and I can find no satisfactory data to go upon. This, however, I can tell you, namely, that the West of Scotland Veterinary Medical Association was the first of its kind to emerge into the light of day, and when we consider the immense number which have followed in its footsteps, and the good which these associations undoubtedly do, and have done, then we can, one and all, congratulate ourselves that we are members of an association which was the pioneer of one of the greatest and most useful movements pertaining to veterinary science.

Our Association, undoubtedly, has had a chequered career, for we learn that after its original appearance its growth was rapid and its strength great; but, unfortunately, a deadly disease attacked it, with the result that the sap in its veins became stagnant, and a deep sleep almost approaching unto death, overtook it and left it for years in a state of extreme debility and inertia.

"Nature's kind restorer" (?) at last was shaken off, and we find a wonderful and complete recovery setting in, which was confirmed by a meeting held within the walls of the Glasgow Veterinary College on the afternoon of the 31st of May, 1880.

From that time until now, with the exception of an occasional relapse, the society has progressed steadily onwards, and I am certain that, with the cordial support of the members, both present and absent, such an occurrence as a relapse will be an unheard-of quantity, and this society will eventually occupy the proud position which the history of its origin entitles it to.

For my part, I thank you one and all for the great honour and privilege which you have conferred upon me in electing me your president. I do not know that I have done anything to deserve this honour, but I do assure you that the interests of the Association will be very dear to me, and if I can do anything towards its advancement and improvement, I will consider myself fortunate indeed.

I now propose directing your attention for a short time towards the subject of mallein.

Mallein—Its Value as a Diagnostic Agent.

This is a subject which is well worthy of the closest attention, and is of great importance, not only to the veterinary practitioner and his clients, but also to the public at large, for, when we consider the gruesome spectacle of a poor animal suffering from an attack of the vile disease called glanders, and when we further recognise the risk of infection and almost certain death which follows upon the accidental inoculation of the human subject, then I say, gentlemen, no precautions nor preventive measures are too great or should be overlooked in trying to arrive at a method which, if properly carried out, would reduce even the possibility of risk to one of our fellow-creatures: and this we can arrive at by the judicious use of mallein.

Mallein, as you are probably aware, is a modified product of the bacillus mallei, the organism recognised as the causative agent of glanders. It is prepared in the following manner:—We first obtain a pure culture of the bacillus mallei and inoculate a flask of bouillon plus glycerine 4 per cent. with it. This we put into the incubator and leave it for from 15 to 20 days. We then remove it, filter and sterilise, and concentrate the solution by evaporation over a water bath until it is reduced to one-tenth of its original bulk. The concentrated solution now remains as a clear brownish, syrupy-like liquid, called "mallein concentrated," which will keep for an indefinite period if deprived of light and kept in a cool place.

In practice the strong solution is usually diluted with ten times its volume of a ½ per cent. solution of carbolic acid, and is now ready for use, going under the name of *Malleine diluée.*

Method which may be adopted in Testing a Stud.

Take, for example, a contractor's stock, numbering ninety horses, and you will find the following one of the most practicable and least objectionable:—

Having arranged with your client to have the stud tested, you divide them into three lots of thirty, select one lot for the first inoculation, and number them off carefully. Visit the stables and take the temperature of each horse in the lot on Thursday and Friday evening; then on Saturday night take the temperatures for the third time, and inoculate the suitable subjects, commencing about 10 p.m.

By a suitable subject we mean one whose temperature has been normal and regular on all three occasions when the temperature was taken. *None other must be inoculated if we wish to arrive at certain and satisfactory results.*

Inoculation.

The instruments required are (*a*) Malleine Diluée, preferably freshly received from the Pasteur Institute, (*b*) a Graduated Syringe, thoroughly antiseptic, (*c*) a pair of Horse Clippers, (*d*) a Bottle, containing a ½ oz. solution of carbolic acid in water.

We now clip the hair off a portion of the neck, about six inches square, and situated about one foot in front of the shoulder, and midway between the upper and lower part of the neck. We next thoroughly cleanse the clipped portion of skin with the solution of carbolic acid, and immediately thereafter carefully inject hypodermically 2½ cubic centimetres, or in English measurement, 45 minims of the Malleine Diluée.

This operation is performed on all the suitable subjects. We then leave the stables and return at 6 a.m. on the Sunday morning, when we take the temperature of each of the inoculated animals, and keep a careful note of it.

At this time we may notice *local* and *general* phenomena affecting our patients.

Local.—A swelling at place of inoculation, which is usually hot and painful, but varies very much in size, sometimes being scarcely noticeable, and in other cases, large and well-marked. However, in almost all cases it is clear of the place where the collar would rest.

The General Phenomena are dulness, staring coat and rigors. If the horse, however, is free from glanders, neither local nor general phenomena are, as a rule, present to any extent. If affected, on the other hand, *both* phenomena may be very well marked.

The local swelling usually disappears within a few days, and if not very great, does not prevent the animal from being put to work. We next take the temperature at 8 a.m., then at 10 a.m., and, lastly at 12 noon, that is to say, at the eighth, tenth, twelfth and fourteenth hour after inoculation.

These we carefully notify and transfer on to a large sheet, in the form of a Temperature Chart, which shows us at a glance the existing temperature of each horse at the various hours specified on the chart.

These conclude the points which require to be taken into consideration with regard to the inoculation, and as they are finished on the Sunday, the horses can resume their work on Monday morning.

On succeeding Saturdays and with similar precautions we inoculate the suitable subjects in the other two lots.

Sometimes unsuitability is due to a slight sore throat which is associated with a fluctuation of temperature, and may pass off in the course of a few days.

Value of Temperature Chart.

If a horse which has been inoculated shows little or no variation in his temperature at each time of taking it since the commencement of the investigation, or at any rate the variation does not amount to more than a degree and a-half, we consider that horse *free* from glanders. If the variation as seen on the chart shows an elevation of from one and a-half to two degrees at any time of taking it after the inoculation we consider that horse *suspicious;* and if the elevation is more than two degrees we consider that horse *affected with glanders* according to the test.

It is a noticeable point that the temperature of an affected animal reaches its maximum usually about the twelfth hour after inoculation, and after that commences

gradually to decrease until about the twenty-fourth, when it may reach the normal.

Further Measures.

If the owner will consent, even though the animal shows not the slightest clinical symptom which would point to the existence of glanders, I would have every horse slaughtered whose temperature had risen more than two degrees after the inoculation, and was, therefore, according to the mallein test, glandered. But, as at present, no compensation is given in many districts to the owners of those, to all outward appearance, healthy horses, I do not feel inclined to advocate compulsory slaughter, as in the event of any horse being killed and not found markedly affected and showing unmistakable lung lesions, endless disputes would be sure to arise, and ill-feeling necessarily result between practitioner and client.

I, however, am so satisfied with the results of post-mortems made and seen by myself upon close on fifty to all outward appearance healthy horses which had responded to the mallein test, and which the owners unhesitatingly consented to have slaughtered, that I have not the slightest hesitation in bringing before the notice of the members of the West of Scotland Veterinary Medical Association for their consideration the following proposition :—

"That the West of Scotland Veterinary Medical Association, recognising the value of mallein as a diagnostic agent in suspected glanders, recommend that the opinion of the various veterinary medical associations be sought upon this subject, in order to decide the advisability of memorialising the Council of the Royal College of Veterinary Surgeons to lay before the Board of Agriculture the following suggestion :

"When glanders occurs in a stud of horses, compulsory testing with mallein should be performed upon each animal in it, and each horse which responds to the test, and is therefore glandered according to the test, should be thereafter slaughtered, and compensation paid to the owner out of the funds of the Board."

My reasons for bringing forward this proposition are that in every post-mortem which I made of horses which (although to all outward appearance healthy) had responded to the mallein test, there was only one which did not show lesions that were unquestionably those of glanders, either of an acute or chronic character, and therefore I feel justified in coming to the conclusion that as a test for glanders mallein may be considered almost infallible.

At the conclusion of the President's remarks—

Mr. Begg, the Secretary of the Association, renewed the

Adjourned Discussion on Tuberculin.

Mr. Chairman and Gentlemen—On rising to re-open the discussion on "Tuberculin Testing," so ably introduced at our last meeting by Mr. J. McLauchlan Young, of Dundee, and adjourned then for future debate on account of its importance, allow me at the outset to say that I have little that is new to add to the remarks I made at last meeting, and it was only at the earnest solicitation of the President last week that I agreed to occupy this position to-day.

Had winter instead of summer months intervened between out last meeting and this I would certainly have had more opportunities for using tuberculin, and would then have had more evidence as to its value as a diagnostic agent to bring before you to-day, and I have no doubt but that few of us have used so much of it during the last six months as we shall expect to use in the next half-year.

I have, since we last met, injected two full stocks and part of another, besides some 17 or 18 single animals. The first stock, one of 29 animals, belonged to a farmer who came to our district from North Ayrshire three years ago. He never had a "pining" cow on his byre on the Ayrshire Farm, where he bred all his own stock ; but as his present farm is essentially a dairy one, requiring the periodical buying in of new cows to keep up the supply of milk, there were only 19 of his original stock remaining. Of the 29 animals tested only four of them were bought-in cows. The conclusions to be drawn from the use of tuberculin in this stock will be obvious to all of you. One of the non-reacting, belonging to the old stock, died of milk fever last month, and a careful post-mortem examination revealed no trace of tubercular disease.

In the second byre which I tested, 20 per cent. of the animals reacted, and in the third 30 per cent., but I am sorry I have no special clinical nor post-mortem evidence for or against tuberculin in either case.

Of the single cases treated, one new-bought cow, which I examined as to soundness seven days before she calved, had a short catching chest cough, and was in poorer condition than is consistent with robust health, but I could not detect anything wrong by auscultation. Being suspicious I used tuberculin, but got absolutely no reaction. Up till the day she calved she fed fairly well, but she occasionally exhibited the suppressed cough when rising. However, soon after calving she went down with milk fever, and though her brain seemed fully cleared up in forty-eight hours, and complete sensation had returned, she was quite unable to rise at the ninth day, and was consequently killed and a post-mortem examination made. A foreign body was found at the back of the chest which had punctured the reticulum and diaphragm, and caused adhesion of the stomach and part of the liver to the diaphragm, but the condition of the parts was such as to indicate that this state of matters had been in existence for a considerable time. I could find no trace of tuberculosis in the organs or lymphatic glands.

Another cow, a three-year-old, which came from a byre rather famed for sending forth a tubercular animal, I found to have part of both lungs in a softened state. She was tested, as much to satisfy the owner's curiosity as my own, and reacted to the extent of five degrees. She was returned to the exposer as a tubercular subject.

At our last meeting some of the older members of our association were very much inclined to doubt the efficacy of tuberculin on account of the large percentage of animals that had reacted in what they looked upon as exceptionally healthy herds. Well, the only answer that can be made to such a conclusion, especially when condemnatory post-mortem evidence is not to the fore, is that the fearful and enormous extension of tuberculosis was unknown before the use of tuberculin. No doubt such results in what we considered our healthiest herds are very stupefying, but we must remember the great difference between the tuberculosis detectable by ordinary clinical examination and tuberculosis only discoverable by tuberculin. If we make a post-mortem examination of some of these reacting but apparently healthy animals, we will find that the evidence of tuberculosis is very insignificant, and probably confined to a few lymphatic glands, so that it is not necessary that all these latent cases should perish.

Recently I injected two young cows under examination as to soundness, and which clinically showed nothing amiss except a slightly enlarged condition of the lymphatic glands in the region of the throat. Both reacted, and I condemned them as being "strumous." Had any one of these animals not reacted, I should have had no hesitation in advising my client to accept the cow as sound, for I would then have looked upon the glandular enlargement as non-specific, at least so far as the bacillus tuberculosis is concerned. It is the aid which tuberculin affords us in such cases as these that should stimulate each and all of us to use it much and often, and to

lose no opportunity of proving its leading by post-mortem examination.

Some of my clients, who have been doing well in spite of tuberculosis, say they do not wish to know how far their stock is infected, but such a conclusion I characterise as utterly foolish, for whether few or many be infected a wise farmer should wish to know, and if many, then he could the more seriously set to work to improve the health of his stock.

I think, gentlemen, in this discussion we ought to turn our attention for a time from the dry results of tuberculin testing of herds to the agent itself. In his paper, Mr. Young wisely made only a few passing but crisp allusions to this branch of the subject, but passed on to those divisions of it which were more capable of interesting an audience, of which probably not half of the gentlemen had ever used tuberculin. As with all new medicines and preparations, most of us, when first we hear of them, are impelled to listen, then we are interested, and in looking before we "tak the loup," questions arise which we would like answered. So is one inclined to inquire about tuberculin—What is it? How is it prepared? What is the explanation of the temporary storm in an affected animal injected with tuberculin? and why is there no appreciable result when a healthy animal receives a full dose? There is no doubt that the opinions that many of us hold as to the diagnostic value of tuberculin requires to be thoroughly substantiated and its seeming weaknesses explained before the agent can occupy its proper position as a reliable test for tuberculosis.

Tuberculin, or Koch's lymph, is prepared by growing the bacillus tuberculosis for two or three months in glycerine broth, then boiling the culture, concentrating over a water bath, and filtering through porous porcelain. So you will see that it consists of the concentrated sterilized liquid in which the bacillus has been grown. It thus contains no living bacilli, for they cannot survive the boiling, but it does hold all the chemical poisons which are secreted or manufactured by the bacillus, and which in the tubercular body produce the changes that we recognise as tubercular disease.

I think, gentlemen, that the question as to how the re-action is produced in affected animals by the injection of tuberculin is one for pathologists only, and any explanation which I might offer as an ordinary practitioner would of necessity be speculative. The theory that a small dose of artificial tuberculin, added to the certain amount that is produced by the bacilli in the tubercles, acts on the nerve centres and the tubercles, causing a temporary augmentation of the diseased process with a consequent rise in temperature, recognised as "re-action," is no doubt fairly satisfactory, but I think it is open to criticism."

Now, gentlemen, I think I have occupied my full share of your time, and as this is a continued discussion, I have no doubt that many of you have valuable statistics to bring before the meeting.

Mr. J. Weir: I would just like to bring under the notice of our President and Mr. Begg one thing I have tried to bring out at last discussion, and that is this: is there any curative agency in the repeated inoculation of mallein or tuberculin? As far as I can read of them—and I have no practical knowledge of tuberculin—I say that although some animals react to the first injection, they frequently don't react to the second; and although they do react to the second, it is always in a minor degree, and ultimately they don't react at all to repeated injection. Has the repeated injection of these agents any curative effect on these animals in the cases of tuberculosis in cattle and glanders in horses? As far as glanders is concerned, I have not had a case for two years and never had a chance to try mallein.

Mr. Anderson: I will repeat, by way of stimulating the discussion, that I have not much faith in tuberculin, and it would be dangerous to advise the wholesale use of it in stamping out tuberculosis. I again say that I believe in the arrested stage of tuberculosis, of which there are a great number of cases, you get no reaction whatever. In cases where there is a complication of other diseases along with tuberculosis, it is also dangerous. But where you have a case of tuberculosis—a well-marked case in the commencement of the disease—I believe it is not only serviceable, but very useful in diagnosing these cases; and so far as mallein is concerned, I am like Mr. Green, I have a great faith in the use of it. I think mallein certainly the most reliable test for glanders that we could dream of getting, and I would advise everyone who has the least suspicion of cases of glanders, to at once test them. I had one the other day where the horse had been running at one nostril for at least six months, and we tried everything, but nothing could stop this sort of gleet; he commenced to make too much water, and looked unthrifty-like in his coat. I determined to try him with mallein, but got a negative result. The horse is now doing better. I think it should be more used than it is. If the other members have given it a trial, they will perhaps give us the result of their experience.

Mr. Taylor: I do not know that I can give you very much. I have been working a good deal amongst tuberculin and I cannot support Mr. Anderson and Mr. Green. The longer I work with it I think that, systematically used and proper attention given to it, almost invariably the big percentage of reactions we get prove, on post-mortem, the good of tuberculin. I have gone over several hundreds and I think there are 47 post-mortems that I have taken a note of. When I say that the thing should be done systematically, I do not say that I did it at first systematically. I found that you must come to know how to use it. I will tell you how I proceed. I take advantage of the Sunday, not so much for the benefit of the animal as getting the benefit of the people about the farm. If there is any cow in a stock I have suspicion about I certainly never would inoculate her. I always try to get a normal temperature and the cow apparently healthy, then I have no hesitation in inoculation. At 9 or 10 p.m. I inoculate them, then I take their temperature every two hours after four o'clock next morning. At first I did not do that, and in two post-mortems I got no reaction and yet we had tuberculosis in the lungs when they were killed. From my after experience I think I went wrong in not taking the temperature systematically every two hours. With regard to what Mr. Weir says about the curative action of it, I know of one cow which has been inoculated for three years, and it was tested last Friday, and it has always run up to 107½°, and it has been looked upon as a good cow though tubercular. Another thing, I think the heat of the byre has a great deal to do with the temperature. I remember one case where we were testing some cows: the first time I took them they were about 103°, the byre at that time being 70°. We opened the ventilators and when I came back the byre was at 62° and those cows had fallen in their temperature. So that I think a great many things have to be attended to in order to make the test a success, and what makes the test a non-success is the want of attention to these things.

Mr. Allan: I am very much like Mr. Anderson, I have not implicit faith in tuberculin. I have found mistakes both ways. I had a cow, one of ten that I injected, and she rose to 106·2, and nevertheless was a healthy looking cow; some six weeks after that she was sent to the butcher, and I made careful examination and could not find signs of tuberculosis. In the same stock there was one that did not react at all; she was sent to the same butcher, and she had signs of tubercular disease on the pleura costalis. Some may say it was not carefully done, but I say I did it very carefully and had the temperature taken as regularly as possibly could be. There are very few post-mortems. Mr. Taylor says there have

been over 40, but I don't know whether they are correct. What I would call a perfect test would be to take a number of cows and inject the whole lot, 10, 15, or 20, and get those slaughtered that don't react as well as those that do. It is a well-known fact that tuberculin which, when put forward first, was to be a curative agent, has become a total failure. I should like to know whether it is to become a curative agent in the lower animals. As a diagnostic agent it is, however, of better value, but in the other way most of the farmers would be better to know nothing about it. Unless you take a lot of cattle, and have a thorough trial, I say that we are deluded. As far as I have gone, I have no great views of it being a certain thing. I have no doubt if you take carbolic and inject it into a nervous cow that it will have the effect of raising her temperature.

Mr. DOUGLAS: I think we are still in the experimental stage with tuberculin. I have tested tuberculin in an Ayrshire dairy district. When it was introduced two or three years ago I tried it on a large number of suspected animals only, and in 99 per cent. on post-mortem I found tuberculosis. I think it is of great value as a diagnosing agent if properly used, and I have had a large number of post-mortems both on suspected and healthy-looking animals. I have had a healthy one taken out and slaughtered for the benefit of owners and neighbours who came to see it. Last year one gentlemen had a number of cows he wanted me to test. I tested them, and seven out of ten gave a reaction. One was a little thin, so he killed her and found her affected with tuberculosis that nobody could have detected during life. A week or two after he thought he would have them killed; and he sent them to the butcher. Their temperature, to begin with, were 103, and they rose 3 degs. They were all visibly affected on post-mortem. I am bound to have faith in tuberculin tests. I think we, as veterinary surgeons, have got to go further. I am even confronted with the question: If they give a reaction, what are we to do with them? Don't you think it would be well if we came to some finding? If a cow takes on flesh and feeds well, is that animal not to be passed as good food, though it gives a reaction? If there is anything the matter, is that cow to be rejected for giving milk? I think these are most important questions. If a cow feeds well, takes on flesh, and carries a good carcase of beef, I would have no hesitation in passing her as an animal fit for market.

Mr MCILWRAITH: In our district, at Milngavie, a farmer thought he would like his stock tested to see if there was anything particularly wrong with them. He got a Glasgow veterinary surgeon to put them under test, and there were two that had been failing for a considerable time before being put under the test, and both responded to tuberculin. Well, to satisfy his own curiosity he sent them to the dead market in Glasgow to have them killed. Though both responded to the tuberculin test, there was no tuberculosis found on post-mortem.

Prof. DEWAR: I have listened with interest to the discussion on tuberculin, and its use as a diagnostic agent. I would first apologise to the Secretary for saying that there was carbolic acid in tuberculin. Tuberculin is not a fixed quantity. It is an organic product, and you may get two samples of tuberculin which are certainly not of the same efficiency. You must be careful to get it from a reliable source, such as the British Institute of Preventive Medicine or the Pasteur Institute. You know, all of you, that things are made to sell, and you see tuberculin advertised by a considerable number of firms which sell chemicals, and we have no means of knowing where it is obtained and how it is prepared, and they won't take any responsibility for anything that may occur through the use of their tuberculin. Always remember that though you have two samples, you cannot be sure they are of the same strength. As to its curative agency, I have had a good deal of experience, and I do not think there is any beneficial effect as far as its curative use is concerned. I have had animals tested and tested, that ultimately did not react to tuberculin, but I don't ascribe the cure of the tuberculosis to the use of the tuberculin. An animal may be left to spend its natural life and she may be affected for some years and years and go on breeding and milking and she may ultimately come to the slaughterhouse in the end a good carcase, yet the subject of tuberculosis. I have a great deal of faith in tuberculin as a diagnostic agent. On one occasion I made a post-mortem examination of an animal that reacted to the tuberculin test, and saw no tubercular lesions, but I have so much faith in it that I believe the animal was affected, and it was through my fault in not making a minute examination that I did not discover it. It is a fact that an animal may become affected by contagion. Take a case where you have two cows, a healthy animal placed beside a diseased one; some day this animal will be affected by contagion with tuberculosis. It may be weeks, it may be months, it must take some time to develop; but, given this time, it is quite possible that this cow may react and yet no one would be able to discover it. I have gone in at the request of a client and tested a byre of cows. On one occasion there was only one animal in the byre that did not react. I may tell you that these cows were as healthy in appearance as you could wish. I could not pick out one as suspected. I learned that the one which did not react had been a newly-bought cow, and I have not the least doubt that after six months she would have reacted like the rest.

Another thing I would like to call attention to. Apart from tuberculin altogether, I am perfectly certain that animals do recover from tuberculosis. You will never remove lesions, but the animals are, properly speaking, healthy. Just like an individual getting a finger amputated, the animals are minus something or other, but there is no tuberculosis in the system.

The PRESIDENT.—Is there nothing we can do to assist in bringing before the meeting of the Board of Agriculture the necessity for taking measures for the compulsory use of mallein in suspected cases of glanders, when the disease appears in a stud of horses. Not only the compulsory use of it, but that compensation should be given to the owners when the horses are slaughtered, having reacted to the Mallein test. That is a point which is of great importance. Animals showing no clinical lesions are allowed to go about their regular work, and until they show some visible clinical symptoms which enable us, as inspectors, to say definitely, "That is an affected animal," we cannot take upon ourselves the risk of condemning the animal and compelling the owner to slaughter it, and consequently these animals are a source of danger to healthy stock with which they may come into contact. It seems a suggestion that might be put forward, if the members of this meeting are satisfied that mallein is a reliable diagnostic agent for glanders.

Mr. PEDDIE: I had a case of glanders three months ago, which turned out to be very bad. There were other three horses in the stables. I tried the mallein test, and the animal reacted. I reported it to Professor McCall. He and I met, and he looked at the horse and thought him thoroughly healthy. There were no visible signs whatever. I advised the man to get rid of it, and it was killed and found to be bad. The temperature rose to about 105°, and on the neck there was a marked swelling nearly a foot in length.

Mr. ANDERSON: I would like to ask some of the members who have tested more than I have, the size and extent of the lesions at the point of inoculation. One case I had where it extended from the neck down to the knee. I never saw such a big swelling caused by anything else before. It did not suppurate.

The PRESIDENT: I believe that the presence or absence

of suppuration in the swelling caused by the inoculation depends on whether the syringe used has been thoroughly antiseptic.

Votes of thanks to the Chairman, Professor Dewar, and visitors brought the Meeting to a close.

HUGH BEGG,
Hon. Sec. and Treasurer.

EXTRACTS AND NOTES.

SCIENCE AND THE HEALING ART.

(From the Address by the President, Sir Joseph Lister, at the meeting of the British Association at Liverpool.)

PHAGOCYTOSIS.

I have, lastly, to bring before you a subject which, though not bacteriological, has intimate relations with bacteria. If a drop of blood is drawn from the finger by a prick with a needle and examined microscopically between two plates of glass, there are seen in it minute solid elements of two kinds, the one pale orange biconcave discs, which, seen in mass, give the red colour to the vital fluid, the other more or less granular spherical masses of the soft material called protoplasm, destitute of colour, and therefore called the colourless or white corpuscles. It has been long known that if the microscope was placed at such a distance from a fire as to have the temperature of the human body, the white corpuscles might be seen to put out and retract little processes or pseudopodia, and by their means crawl over the surface of the glass, just like the extremely low forms of animal life termed, from this faculty of changing their form, amœbæ. It was a somewhat weird spectacle, that of seeing what had just before been constituents of our own blood moving about like independent creatures. Yet there was nothing in this inconsistent with what we knew of the fixed components of the animal frame. For example, the surface of a frog's tongue is covered with a layer of cells each of which is provided with two or more lashing filaments or cilia, and those of all the cells acting in concert cause a constant flow of fluid in a definite direction over the organ. If we gently scrape the surface of the animal's tongue we can detach some of these ciliated cells, and on examining them with the microscope in a drop of water we find that they will continue for an indefinite time their lashing movements, which are just as much living or vital in their character as the writhings of a worm. And as I observed many years ago, these detached cells behave under the influence of a stimulus just like parts connected with the body, the movements of the cilia being excited to greater activity by gentle stimulation, and thrown into a state of temporary inactivity when the irritation was more severe. Thus each constituent element of our bodies may be regarded as in one sense an independent living being, though all work together in marvellous harmony for the good of the body politic. The independent movements of the white corpuscles outside the body were therefore not astonishing, but they long remained matters of mere curiosity. Much interest was called to them by the observation of the German pathologist Cohnheim that in some inflammatory conditions they passed through the pores in the walls of the finest blood vessels, and thus escaped into the interstices of the surrounding tissues. Cohnheim attributed their transit to the pressure of the blood. But why it was that, though larger than the red corpuscles, and containing a nucleus which the red ones have not, they alone passed through the pores of the vessels, or why it was that this emigration of the white corpuscles occurred abundantly in some inflammations and was absent in others, was quite unexplained.

These white corpuscles, however, have been invested with extraordinary new interest by the researches of the Russian naturalist and pathologist, Metchnikoff. He observed that, after passing through the walls of the vessels, they not only crawl about like amœbæ, but, like them, receive nutritious materials into their soft bodies and digest them. It is thus that the effete materials of a tadpole's tail are got rid of, so that they play a most important part in the function of absorption.

But still more interesting observations followed He found that a microscopic crustacean, a kind of water flea, was liable to be infested by a fungus which had exceedingly sharp-pointed spores. These were apt to penetrate the coats of the creature's intestine and project into its body cavity. No sooner did this occur with any spore than it became surrounded by a group of the cells which are contained in the cavity of the body and correspond to the white corpuscles of our blood. These proceeded to attempt to devour the spore, and if they succeeded, in every such case the animal was saved from the invasion of the parasite. But if the spores were more than could be disposed of by the devouring cells (phagocytes, as Metchnikoff termed them), the water flea succumbed.

Starting from this fundamental observation, he ascertained that the microbes of infectious diseases are subject to this same process of devouring and digestion, carried on both by the white corpuscles and by cells that line the blood vessels. And by a long series of most beautiful researches he has, as it appears to me, firmly established the great truth that phagocytosis is the main defensive means possessed by the living body against the invasions of its microscopic foes. The power of the system to produce antitoxic substances to counteract the poisons of microbes is undoubtedly in its own place of great importance. But in the large class of cases in which animals are naturally refractory to particular infective diseases the blood is not found to yield any antitoxic element by which the natural immunity can be accounted for. Here phagocytosis seems to be the sole defensive agency. And even in cases in which the serum does possess antitoxic, or, as it would seem in some cases germicidal properties, the bodies of the dead microbes must at last be got rid of by phagocytosis, and some recent observations would seem to indicate that the useful elements of the serum may be, in part at least, derived from the digestive juices of the phagocytes. If ever there was a romantic chapter in pathology, it has surely been that of the story of phagocytosis.

I was myself peculiarly interested by these observations of Metchnikoff's because they seemed to me to afford clear explanation of the healing of wounds by first intention under circumstances before incomprehensible. This primary union was sometimes seen to take place in wounds treated with water dressing, that is to say, a piece of wet lint covered with a layer of oiled silk to keep it moist. This, though cleanly when applied, was invariably putrid within twenty-four hours. The layer of blood between the cut surfaces was thus exposed at the outlet of the wound to a most potent septic focus. How was it prevented from putrefying, as it would have done under such influence if, instead of being between divided living tissues, it had been between plates of glass or other indifferent material? Pasteur's observations pushed the question a step further. It now was, How were the bacteria of putrefaction kept from propagating in the decomposable film? Metchnikoff's phagocytosis supplied the answer. The blood between the lips of the wound became rapidly peopled with phagocytes, which kept guard against the putrefactive microbes and seized them as they endeavoured to enter.

If phagocytosis was ever able to cope with the septic microbes in so concentrated and intense a form, it could

hardly fail to deal effectually with them in the very mitigated condition in which they are present in the air. We are thus strongly confirmed in our conclusion that the atmospheric dust may safely be disregarded in our operations; and Metchnikoff's researches, while they have illumined the whole pathology of infective diseases, have beautifully completed the theory of antiseptic treatment in surgery.

PHYSIOLOGY AND PATHOLOGY

At the British Association.

In this section matters of great interest were discussed.

Dr. Lazarus Barlow read a paper on "The *Rôle* of Osmosis in Physiological Processes," which was followed by a long discussion. He pointed out that until recently physiologists had not distinguished between osmosis and dialysis. Applying the results of physical experiments with a specially-designed apparatus and of experiments with animals to explain secretion and excretion, he came to the conclusion that osmosis played but a small part in these vital processes, and that purely physiological theories were no longer tenable.

Drs. Kanthack and Woodhead agreed that osmosis could not explain anything approaching all that would be required of it, and that Dr. Barlow had conclusively shown this.

Dr. Kanthack, in a paper on "Bacteria in Food," sought to prove that a large number of micro-organisms may be taken with food without apparent injury to the individual. Milk ordinarily contains about half a million of germs per cubic centimètre. In sandwiches they are generally too numerous to count. Oysters teem with them, and ices from a fashionable confectioner's contained from 10 to 14 million, whilst those from the Italian vendor in the street contained considerably less. Of all these things Dr. Kanthack had partaken without injurious effects. Two organisms, the bacterium *coli commune* and *proteus*, are so ubiquitous that their presence, therefore, in food cannot be held, as is often supposed, to condemn such food. Moreover, it appears probable that animals cannot thrive with perfectly sterile surroundings and perfectly sterile food.

The discussion showed that most of the speakers were not of Dr. Kanthack's opinion.

Dr. Sims Woodhead remarked that the bacterium *coli commune* in water at any rate showed that it had come in contact with something it should not, and that he and his colleagues had observed various dyspeptic effects follow the ingestion of oysters in proportion to the number of micro-organisms they contained.

Professor Burdon Sanderson considered that only pathogenic organisms were of importance in this connexion, and Dr. Kanthack had not met with any in the food examined.

Dr. Barlow pointed out the importance of the state of health of the individual in considering these questions, and Drs. Copeman, Caton, Durham, and Professor Boyce agreed that it was advisable to avoid the ingestion of bacteria when possible, although they were generally harmless in cheese and game.

Dr. Woodhead read a paper on the "Organization of Bacteriological Research in Connection with Public Health," which was received with much enthusiasm. While Continental laboratories were supported by the State, in England they received practically no Government support, and very little from the community, usually depending on the generosity of single individuals. As a result they were undermanned, and a large amount of public health work from which the community would profit remained undone. Each municipality should endow a laboratory, in which besides original research, work required by the medical officer of health and the sanitary authorities could be done. The scheme, he submitted, presented very few difficulties.

Professor Haycraft mentioned that a commencement had already been made in South Wales. Dr. Hope thought it might soon be in operation in Liverpool, and Prof. Delépine described the arrangements already in existence in Manchester.

Death of a Veterinary Surgeon.

The death is announced, at Cheltenham, of Mr. William A. Harber, veterinary surgeon, who was for many years a resident in Kidderminster, and as widely known as he was esteemed. Mr. Harber held Corporation appointments when here, and gave up the practice when he left Kidderminster.—*Worcestershire Chronicle.*

The Canadian Cattle Trade.

Consequent upon the continuance of the British schedule against Canadian cattle the Government contemplate the removal of the quarantine against American cattle for the purpose of promoting the importation of thoroughbred stock. On the appearance of the slightest sign of pleuro-pneumonia, however, the quarantine will be re-established.—*Reuter.*

INSTRUMENT FOR REMOVING FOREIGN BODIES FROM THE EYE.

By A. Ernest Shorten, m.r.c.v.s.l., Ipswich.

I have had submitted to my notice a handy little instrument invented by Mr. J. Simson, of Holbrook, Suffolk, for the purpose of removing foreign bodies such as oat flights, etc., from the eye.

It consists of a simple loop of fine wire attached to a holder, and seems admirably adapted for the purposes required of it.

The receptacle at end is intended for spare wires and can also be used as a case for clinical thermometer.

It is made by Messrs. Arnold & Sons, London.

ARMY VETERINARY DEPARTMENT.

Vet.-Major W. Gladstone left Hounslow for Dundalk for duty with 1st Dragoons, on the embarkation of the 4th Hussars for India.

Vet.-Capt. C. E. Nuthall has been transferred from 1st. Dragoons, Dundalk, to 2nd Dragoon Guards, Shorncliffe.

Vet.-Lieut. J. T. Coley has joined at Newbridge for duty with R.H.A.

Vet.-Capt. R. Pringle arrived at Hounslow from Aldershot with 2nd Dragoons and proceeded to Leith with the escort of that regiment sent in honour of the Czar of Russia.

The following officers embarked in S.S. Victoria for a tour of service in India:—Vet.-Capt. R. H. Ringe, Vet.-Capt. G. C. O. Fowler, and Vet.-Lieut. F. W. Hunt.

Vet.-Lieuts. C. B. M. Harris and F. S. H. Baldrey, also embarked on return to India from sick leave of absence.

CORRESPONDENCE.

SWINE FEVER FEES.

SIR,

I have read with much interest the correspondence in *The Record* between Mr. Edwards and Mr. Parr with regard to the fees paid respectively by the Board of Agriculture and the Local Authorities in swine fever cases. As a county inspector for a wide area, and one whose experience in years, I am sorry to say, outnumbers both Mr. Edwards' and Mr. Parr's combined, will you kindly allow me to say a few words on the subject.

Although perhaps foreign to the matter in hand, allow me to congratulate both gentlemen on the admirable manner in which the correspondence has been conducted. They have carefully avoided personalities which so often cause what might have proved an interesting discussion to degenerate into a wordy warfare of no interest to anyone except the parties concerned. I hope that veterinary inspectors in other counties will give us their experience and advice, so that by taking united action some good may result.

I enclose you, sir, printed scale of charges allowed to their veterinary inspectors by the Counties of Leicester and Warwick, a rate of pay which I think is equally discreditable to those Local Authorities who pay it as it is to those veterinary inspectors who receive it. From this scale of pay you will see that it is possible to spend the greater part of the day working for your county and, if you hire a conveyance, to return at night actually cash out of pocket. I will prove it: Leicester allows 2s. 6d. for examining *any number* of animals affected with anthrax, foot-and-mouth disease, glanders, rabies, and swine fever. Take for instance a case of anthrax occurring amongst a number of beasts 10 miles away, your balance sheet would be as follows:—

Receipts.		Payments.	
Examining beast with Anthrax	2 6	Posting to place where disease exists	10 0
Mileage	10 0	Half fare return journey	5 0
	12 6		15 0

Thus showing a loss of 2s. 6d. on the transaction without taking into account stamps, stationery, etc.

The County of Warwick, at first sight, appear to pay rather better, as they allow 5s. for an inspection, but evidently frightened at their reckless expenditure they at once proceed to take back with one hand what they gave with the other. I scarcely expect your readers to believe me when I tell them that they do no not allow their veterinary inspectors to charge for the *first two miles* they travel. For instance, I drive three miles out and three miles back, in all 6 miles; for this I am only allowed to charge 1s. What would a London cabby say to this?

It may be said, if you are dissatisfied with the fees why not resign? Personally, I am quite willing to do so, but one can understand cases where it would not answer an inspector's purpose to resign, and unless we all did so it would have no weight with the Local authority.—Yours faithfully,

R. R. COLE.

Hinckley.

ADVERTISING.

DEAR SIR,

After reading your able article in last week's *Record*, I feel reluctant in drawing the attention of the profession to an advertisement which appeared lately in a Manchester paper called *The Century's Progress*, by a firm of veterinary surgeons residing in that city. I understand other members of the profession were canvassed to insert advertisements in this paper, the charge being moderate? viz., about £5 5s.

When such a well-known firm, whose "reputation is not surpassed by that of any house in the North of England" and one of its partners being on the Council, take to advertising and get off scot free, while a poor struggling M.R.C.V.S. gets pulled over the coals for putting his card in the local papers, is it not full time to ask when justice is to be done, or if only members of Council are to have the right to advertise?

I noticed sometime ago you gave space to a letter from Mr. John Blakeway drawing attention to a somewhat similar but minor offence. I hope your sense of justice will allow space for this wonderful "blow" from Manchester, which will let members of the profession see to what height professional conduct is carried to in that city.—Yours, etc.

Sept. 29. MAC.

[We have forwarded the "blow" to the Council.—ED.]

A CONTRADICTION TO MR. FRASER'S LETTER.

SIR,

Allow me through the medium of your valuable journal to contradict the statement made by Mr. Fraser in the issue of *The Veterinary Record* dated September 19th, that the members of the profession had themselves to blame if they allowed abuses &c. in the profession and did not complain to the C.R.C.V.S.

I shall be glad to support my contradiction by facts if Mr. Fraser cares to write me, care of the Editor of this journal. I am afraid the Council indulge *sometimes* in preaching without practising their doctrines.—Your obedient servant,

"PROGRESSIONIST."

Sept. 29th,

N.V.A.—A CORRECTION.

SIR,

Mr. Macgillivray's letter in last week's *Record* has served to call my attention to an error in the proceedings of the Fourteenth General Meeting of the National Veterinary Association. I am there made to say that when one wants a cow with tuberculosis for experiment it is very difficult to get one. What I did say was, "When you want a cow with tuberculosis *of the udder* for experiment it is very difficult to get one."—Yours, etc.

J. MCFADYEAN.

Royal Veterinary College.
30th Sept.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Capt. E. Taylor (encl.), Messrs. H. Begg, J. Sutcliffe Hurndall, J. D. Stewart, J. M. Ironside, R. R. Cole, "Progressionist," "Mac." *Age of the Horse, How to tell it.*"